# STUDIES IN NEOTROPICAL *ACROCERIDAE*, PART I.

# A REVISION OF *ARRHYNCHUS* PHILIPPI AND A KEY TO THE GENERA OF THE *OCNAEA* BRANCH OF THE PANOPINAE (DIPTERA)

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ABSTRACT

The Chilean genus *Arrhynchus* Philippi is reinstated (= *Ocnaea* of authors) and revised. The type species, *A. vittatus* Philippi, is redescribed, while new combinations proposed are *A. stuardoi* (Sabrosky) and *A. meridionalis* (Sabrosky). The new species, *A. penai* Schlinger and *A. maculatus* Schlinger are described and notes are given on the rearing of the latter species from a theraphosid spider.

## INTRODUCTION

The rather rare genus *Arrhynchus* was described by Philippi (1871) and he included in it only its monotype, *A. vittatus* Phil., from Chile. When Edwards (1930) discussed the acrocerids of Chile he suggested (without seeing any specimens) that *Arrhynchus* was probably a synonym of *Ocnaea* Erichson. It wasn't until I had the opportunity to see the type specimen of *A. vittatus* and other specimens of this genus that I became certain *Arrhynchus* was a valid genus but one closely related to *Ocnaea*. Philippi (1871) apparently was unaware of the genus *Ocnaea*, for he related his new genus only to *Panops (nec.* Lamarck, but rather to Chilean species of *Lasia* Wiedemann as he knew them).

*Arrhynchus* now includes five species and is apparently autochthonous to Chile, while *Ocnaea* occurs from southern United States south to Brazil, but does not occur in Chile.

This is the fifteenth in a series of articles dealing with reviews or revisions towards a monograph of the Acroceridae. Two papers citing most of the references in this series are those of Schlinger (1961 and 1968). This is also the first in a planned series dealing with systematics, biologies, distributions and taxonomic notes on Neotropical acrocerid flies.

[1]Part of this study was undertaken while the author was a Guggenheim Fellow in Chile, 1966-67.

ACKNOWLEDGMENTS

A study of this rare group of Diptera could not have been completed without the kind assistance of many interested persons and institutions. I express my sincere gratitude to my close friend, Luis E. Peña, now with the Universidad de Chile, who greatly aided my field studies in Chile and loaned me important material, and to one of my graduate students, Michael E. Irwin, who helped to gather much important field data on Chilean acrocerids during 1966-67. To Miss Maria Etcheverry, Centro Investigaciones Entomologicas, Universidad de Chile, Mr. H. Toro, Universidad Católica, Valparaíso and Guillermo Kuschel, now in New Zealand, I am indebted for the loan of specimens, and specially to the latter person who was responsible for the loan of the Philippi type specimens from the National Museum collection in Santiago, Chile, which is now under the curation of Vicente Pérez.

My eight-month expedition in Chile was sponsored both by the John Simon Guggenheim Foundation and by the Convenio Program of the University of California and Universidad de Chile, and their generous assistance is greatly appreciated. Excellent laboratory facilities at the Estación Experimental Agronómica at La Rinconada, Chile, were made available to me to study acrocerids and their spider hosts, and I wish to acknowledge my colleagues Dr. Roberto González, Dr. Luciano Campos, Mr. Raúl Cortés, Mr. Nelson Hichins and others on the Entomology staff for their friendly help and interest while I was studying in Chile.

The abbreviations listed below are used in the text to determine the present location of the speciment used in this study:

(LP) — Señor Luis. E. Peña collection, Santiago, Chile.
(CUV) — Universidad Católica de Valparaíso, Chile.
(CAS) — California Academy of Sciences, San Francisco, California, USA.
(AMNH) — American Museum of Natural History, New York, New York, USA.

(USNM) — United States National Museum, Washington, DC., USA.
(CIE) — Centro Investigaciones Entomológicas, Universidad de Chile, Santiago, Chile.
(EEA) — Estación Experimental Agronómica, Universidad de Chile, Maipú, Chile.
(EIS) — Evert I. Schlinger collection, University of California, Riverside, California, USA.
(CNHM) — Museo Nacional de Historia Natural de Chile, Santiago, Chile.

## SYSTEMATICS

Key to the Neotropical genera of the *Ocnaea* branch of the Panopinae (Acroceridae)

1. Eyes pilose . . . . . 2
   Eyes bare (Central America) . . *Appelleia* Bellardi
2. Vein $R_4$ present, usually complete but always with at least a basal or apical stub; wing membrane bare, with some, or with many macrotrichiae and/or microtrichiae on costal, subcostal, marginal and occasionally on submarginal posterior and other cells . 3
   Vein $R_4$ absent; much of wing membrane with numerous macrotrichiae on costal, subcostal, marginal and/or submarginal, posterior, discal, basal, cubital and anal cells (Brazil and Bolivia) . . . . . *Exetasis* Walker[2]
3. Eyes holoptic below antennae . . . . . 4
   Eyes at least partly and usually considerably separated below antennae; antennae placed at, below or slightly above mideye height; antennae placed underneath or in front of large frontal tubercle; humeral cross vein absent. (Brazil, Ecuador, Guatemala) . . . . . *Pialea* Erichson[3]
4. Antennae placed high on head just in front of ocellar tubercle, or about ¾ upon head . . . . . 5
   Antennae placed at or below mideye height; basal cervical sclerite hardly visible (Chile) . . . . . new genus[4]
5. Antennae placed just in front of ocellar tubercle; eyes widely separated between antennae and ocellar tubercle; ocellar tubercle well-raised prominent lateral ocellus (California-North Carolina, south to Brazil . . . . . *Ocnaea* Erichson
   Antennae somewhat lower on head with eyes more narrowly separated between antennae and ocellar tubercle; ocellar tubercle flattened or barely raised, triangular with distinct or indistinct median ocellus, but lateral ocellus is prominent (Chile) . . . . . *Arrhynchus* Philippi

[2]The genus *Exetasis* Walker (1852) has been considered a synonym of *Ocnaea* Erichson by most authors, but the significant characters given here in the key clearly indicate it should have separate taxonomic status.

[3]The genus *Stenopialea* Speiser from South Africa is related to *Pialea*, but its species have a distinct humeral crossvein.

[4]This new genus from Chile is being described by the author in another paper now in preparation.

### Arrynchus Philippi

*Arrhynchus* Philippi, 1871: 291-292; Reed, 1888: 288; Hunter, 1901: 152; Kertes'z, 1909: 11.

*Ocnaea* of authors, *nec.* Erichson; Edwards, 1930: 188, Stuardo, 1946: 102, Sabrosky, 1946: 190.

*Type species: Arrhynchus vittatus* Philippi, by monotypy.

*Diagnosis:* Medium to large flies (8 to 16 mm. long), black or bluish-black with yellow or orange markings. Eyes pilose, antennae much longer than head height (males), or as long as or up to ½ as long as head height (females); ocelli present (2 or 3) median ocellus may be present and distinct or apparently absent; eyes narrowly separated between antennal triangle and post clypeus, but distinctly separated from frons to ocellar tubercle; antennae placed near but distinctly below vertex, separated from ocellar triangle and anterior edge of frons by distance equal to, or greater than, length of antennal segment I (see Figs. 2, 4, 8, 12, 14); clypeus present but small, prementum hardly visible: wing venation strong, vein $R_{4+5}$ branched; trichiation of wing membrane limited to costal and subcostal cells and quite faint: legs strongs, pulvilli narrow (especially empodia), shorter than claw length.

*Distribution:* The five known species are recorded only from Chile, and this is good evidence to support the idea that *Arrhynchus* is endemic and/or autochthonous to that region.

*Discussion: Arrhynchus* is similar to *Ocnaea, Exetasis* and *Pialea,* and is somewhat intermediate between *Ocnaea* and *Pialea.* It is most similar to *Ocnaea* with which genus it had been synonymized by Stuardo (1946) without stating why. The main differences between *Arrhynchus* and *Ocnaea* are in the placement of the antennae, the development of the ocellar tubercle and vertical areas, wing trichiation, head shape and size of occiput.

To this monotypic genus can now be added four additional species from Chile. These are:

*Ocnaea stuardoi* Sabrosky, *O. meridionalis* Sabrosky, *A. penai* Schlinger, n. sp. and *A. maculatus* Schlinger, n. sp.

KEY TO THE SPECIES OF *ARRHYNCHUS* PHILIPPI[5]

1. Males (antenna longer than head height) . . 2
   Females (antenna as long or shorter than head height) . . . . . 3
2. Tergum metallic bluish-black with contiguous yellow, lateral spots on at least segments II-III; mesonotal pile brownish or greyish-white . . . . *vittatus* Philippi
   Tergum more dull black or black with small, dorsally-interrupted orange lateral spots sometimes on segments II-V; mesonotal pile black . . . . . *stuardoi* (Sabrosky)
3. Mesonotum shiny bluish-black . . . . . 4
   Mesonotum orange . . . . *penai* Schlinger, n. sp.
4. Tergum entirely shiny bluish-black . . . . . 5
   Tergum with large, lateral yellow area or spots on segments II-III or II-IV . . . . . 6
5. Antennal segment I nearly ½ as long as III . . . . *meridionalis* (Sabrosky)
   Antennal segment I about ¼ as long as III . . . . *stuardoi* (Sabrosky)
6. Tergum with large lateral yellow area on segments II-IV; hair on eye reaching only to apex of antennal segment I . . . . . *vittatus* Philippi
   Tergum with small, but distinct yellow spots on segments III-IV; hair on eyes reaching nearly to apex of antennal segment II . *maculatus* Schlinger, n. sp.

## Arrhynchus stuardoi (Sabrosky), new combination
(Figures 6, 12, 13)

*Ocnaea stuardoi* Sabrosky, 1946: 191-194, Figs. 1-3.

*Specimens examined:* (10 males, 14 females) all from Chile.

*Type Specimens:* ♂ Holotype, El Canelo, XII-13-1932, C. Stuardo (CNHM); 2 ♂ and 1 ♀ paratopotypes; 1 ♂ IX-20-38; 1 ♂ and 1 ♀, XI-38, C. Stuardo (CNHM, USNM); 1 ♂ paratype, Las Condes, Jan. 1889 (?) (CNHM); 1 ♀ paratype, ex-col. Omel (CNHM). 1 ♀ allotype, topotypical (CNHM).

*New Records:* 1 ♂ Guacayan, Santiago, XII-2-52 (LP); 2 ♀ El Canelo, XII-29-50, L. E. Peña, (LP); 1 ♂ same, XI-26-44, Ramírez, (CAS); 1 ♀, same XI-20-46, E. P. Reed, Coll. (CAS); 1 ♀ same, XI-29-54, L. Peña (EIS); 1 ♀, same, X-1952 (AMNH); 2 ♀, same, 1949, E. P. Reed, coll. (CAS); 1 ♀ same, XII-1950, L. Peña (CAS); 1 ♀, El Manzano, Jan. 1959, G. Monsalve, (EIS); 1 ♀, Quilpué, I-1962, J. Verguez (CUV); 2 ♂, Quebrada de la Plata, Stgo. Prov., malaise trap, I-12-67, M. E. Irwin (EIS, EEA); 1 ♂, Viña del Mar, Valparaíso Prov., X-1961, E. González (CUV).

*Discussion:* The females of this species are dark metallic bluish-black, but the males are somewhat less shiny and black, or sometimes with dull, orange, lateral, tergal spots on tergites II-V or on fewer segments and sometimes the intersegmental membranes between sternites and tergites are also orange. This orange color of the tergum is somewhat similar to darker specimens of *A. vittatus,* except the spots in *stuardoi* are not contiguous in dorsal view. The antennae of the females are slightly shorter than the head height, while in the males the antennae are about ⅓ longer than head height (see Figs. 6 and 12). The wing venation and trichiation pattern, are essentially the same as shown in figure 1 for *maculatus* n. sp.

The variation in the males may be normal for this species, or it may be that males of another species are involved here, such as *meridionalis,* whose females are known likewise from the type locality of *stuardoi.*

## Arrhynchus meridionalis (Sabrosky), new combination
(Figures 4 and 5)

*Ocnaea meridionalis* Sabrosky, 1946: 194-195, Fig. 4.

*Specimens examined:* (2 females).

*Type Specimen:* ♀ Termas de Chillan, Chile, Feb. 2, 1935, C. Stuardo (CNHM).

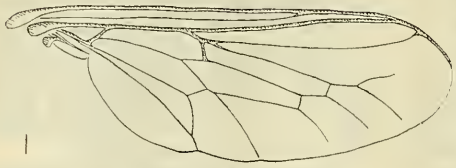
*New record:* 1 ♀, El Canelo, Santiago, Chile, Nov.-Dec. 1952, Ramírez (LP).

*Distribution:* This species is now known only from the 2 females cited here, hence the species still appears to be rare and restricted to Chile.

*Discussion:* The holotype was examined and is in perfect condition. The new specimen from El Canelo is certainly conspecific,

[5]Males are unknown for *meridionalis, penai* and *maculatus.*

# Arrhynchus species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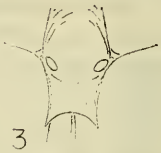
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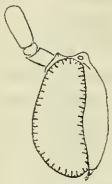
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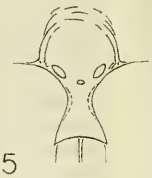
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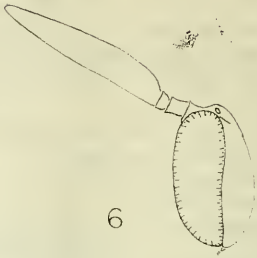
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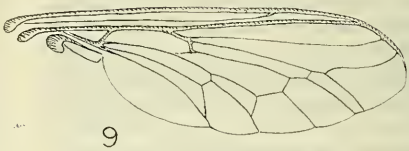
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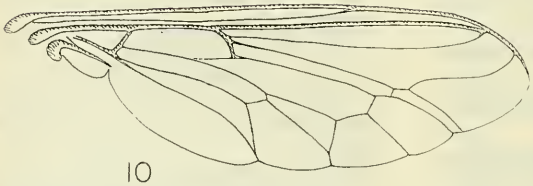
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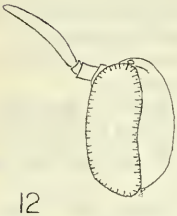
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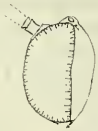
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but is much smaller. The squamae are slightly more infuscated and the 2nd posterior cell is open rather than closed and petiolate as in the type.

This species is dark metallic bluish-black throughout the entire body. It is similar to *A. stuardoi,* but is easily distinguished by its short antennae, which are about ½ as long as in *stuardoi* females. The wing venation is similar to *maculatus* as shown in fig. 1, and the head, vertex and antennal characters are shown in Figs. 4 and 5.

### Arrhynchus penai Schlinger, new species (Figures 1, 2, 3)

*Holotype Female:* Length of entire specimen 10 mm., wing length 8 mm.

*Coloration:* Bluish-black, orange and brown. Brown are apex of antennal segment II, all of segment III, indistinct spots on humerus, upper mesopleura, area anterior and basal to metathoracic spiracle, area immediately below wing base, mediobasal area of postalar callus, squamal margin, wing veins, knees, tibial spurs, anterior tarsus and parts of genitalia; orange are most of humerus, all of mesonotum, most postalar callus, anterior angle of scutellum; somewhat darker orange are three mesonotal vittae; white are pulvilli, squama and ocelli; dark brown are mid- and hind tarsi and parts of abdominal sterna; black are eyes, antennal segment I, basal part of segment II, occiput, ocellar tubercle, clypeus and tarsal claws; halter dull dark brown, the stem base lighter brown; remainder of specimen bluish-black.

*Pile:* Brownish-black and dense on eyes, occiput, coxae, base of humerus, mid-mesopleural area, hipopleura and about as long as length of antennal segments I + II; that on upper humerus, mesonotum, light spots on upper mesopleura and scutellum dense and orangish-yellow, about same length as on eyes; that on abdominal terga black, somewhat shorter than on eyes; that on abdominal sterna and most of femora black, and about ½ as long as on eyes; that on tibiae and tarse concolorus with segments, appressed, much shorter than on femora than on squama, yellowish-white, more sparse than and ½ as long as on scutellum; dense, microscopic, golden setae present throughout lower pleural area, occiput and anteroventral margin of abdominal tergite I.

*Head* about twice as high as long (Fig. 2); antenna about as long as head length; segments I and II short, segment III long, as 6: 4:40; segment III nearly straight, narrow outer margin incised longitudinally throughout most of its length (except base and apex) and segment atennuates apically; entire segment asetate except setae present on outer basal area: base of antennae separated from lateral ocellus by distance equal to lengths of antennal segments I + II; ocellar tubercle hardly raised, lateral ocellus small but evident, median ocellus absent; frons small, hardly raised; occiput (when viewed laterally) occupies more than 1/3 of head length at mid-line; clypeus indistinct but present as small protuberance between margins of postclypeus; prementum indistinct but present; eyes separated by indistinct line from antennal triangle to postclypeus, more broadly separated between frons and ocellar tubercle as in Fig. 3.

*Thorax* shiny; humerus with short but distinct posterodorsal facing angle; scutellum about twice as wide as long; legs each with one short tibial spur, short hairs covering entire basal ⅔ of tarsal claws; squama opaque, densely covered with minute hairs as well as longer pile; wing venation somewhat reduced, with $R_{4+5}$ incomplete but branched as in fig. 1; wing membrane hyaline, faintly infuscated.

*Abdomen* shiny (but greasy); tergite I shorter than tergite II in midline as 10:40, tergites III-V equal in length to II.

EXPLANATION OF FIGURES

Figures 1, 2 & 3 *Arrhynchus penai* Schlinger, holotype ♀; figs. 4 & 5 *Arrhynchus meridionalis* (Sabrosky), holotype ♀; figs. 6, 12 & 13 *Arrhynchus stuardoi* (Sabrosky), 6 and 12 paratype ♂, 13 paratype ♀; figs. 7, 8 & 9 *Arrhynchus maculatus* Schlinger, holotype ♀; figs. 10, 11 & 14 *Arrhynchus vittatus* Philippi, holotype ♀.

Figures 1, 9 & 10 wings; figs. 2, 4, 6, 8, 12 & 14 heads in lateral view; figs. 3, 5, 7, 11 & 13 ocellar tubercle and frons in dorsal view.

*Male:* Unknown.

*Type Material: Holotype* ♀, El Canelo, Santiago Prov., Chile, 11-10-1958 (G. Monsalve), and one ♀ *paratopotype.* Another ♀ examined which is certainly conspecific, but not topotypic is from El Pufon, Curico Prov., Chile, Julio Saa J. (CIE).

*Discussion:* The paratopotype female differs obviously from the holotype only as follows: Antenna (one absent) somewhat more orange on segment III, and orange color of humerus and upper pleural area more extensive; antennal segment III without setae at outer base.

This striking orange and blue acrocerid fly is perhaps a mimic of some as yet unknown model such as a bee. The only other species of the genus with similar color (but completely different pattern) is *A. vittatus.*

It is with great pleasure that I name this species after my friend, Señor Luis E. Peña Guzmán, a great Chilean naturalist and an excellent collector of rare Acroceridae.

Arrhynchus maculatus Schlinger, new species
(Figures 7, 8, 9)

*Holotype Female:* Length of entire specimen 8 mm., wing length 8 mm.

*Coloration:* Metallic blue, black and orange. Black are eyes, antennae, halters and tarsal claws; orange are lateral abdominal circular spots covering posterior one-half of tergite II and nearly all of posterior margin of tergite III; pulvilli and squama greyish-black; small brown spot anterior to ovipositor; remainder of specimen metallic blue, except most of legs with considerable black color as well.

*Pile:* Black and dense on eyes, legs, pleurae, humeri and few on abdominal venter about as long as length of antennal segments I and II, much shorter on tibiae and tarsi; greyish-white and dense on mesonotum and scutellum, mixed with some black on latter, somewhat longer than on eyes; that on scutellum longer than on mesonotum; that on abdomen white mixed with brownish-black, rather dense and about as long as on eyes except for much shorter yellowish-brownish pile on orange abdominal spots; that on squama sparse, light brown, about ½ as long as that on scutellum.

*Head* higher than long as 40:25, as wide as high (Fig. 8); antennae longer than head length as 33:25; segments I, II and III as 6:3:24; segment III asetate, longer than wide as 24:6, with several, thin, irregular longitudinal grooves and 6 to 8 distinct but small sensory pits on each ventral surface; base of antennae separated from lateral ocellus by distance equal to length of antennal segments I + II; ocellar tubercle slightly raised triangular, cleft medially; lateral ocellus distinct, median ocellus absent; frons small, raised medially; occiput (in lateral view) occupies about ⅓ of head length; clypeus very small but present anteriorlly between margins of postclypeus; prementum present but hardly visible; eyes indistinctly separated from postclypeus to antennae, narrowly separated between frons and ocellar tubercle as in Fig. 7.

*Thorax* shiny; humerus with short, slightly pointed posterior-facing angle; scutellum more than twice as wide as long as 52:22; legs each with one short tibial spur, but foreleg with indication of 2nd spur; short hairs covering basal ½ of tarsal claws; squama opaque, heavily infuscated, densely covered with minute hairs as well as long pile; squamal rims heavily infuscated; wing venation as in Fig. 9; wing membrane hyaline, but evenly and well infuscated.

*Abdomen:* Shiny, widest at segment III.

*Male:* Unknown.

*Type Material: Holotype* ♀, Cuesta Pucalan, Valparaiso Province, Chile, IX-15-1966, E. I. Schlinger, M. E. Irwin (EEA). This specimen was reared from an immature theraphosid spider collected along with 15 other theraphosid spiders under rocks on the east side of the pass on September 15, 1966. These spiders were kept alive and reared in the laboratory at the Estación Experimental Agronómica in La Rinconada, Chile, until January 2, 1967, when I first noticed the mature larva of this fly inside a vial next to the dead host spider. At that time, the larva was in the spider's premoulting web and that is where it pupated on January 5. It emerged from its pupal skin on January 16 and died on January 22 without producing any eggs. The life stages

of this fly will be reported in a forthcoming paper by the author. The rearing record for this particular fly was ⫩ 29A in my field notebook.

*Host spider:* An immature Theraphosidae; probably *Phrixotrichus roseus* (Guerin).

### Arrhynchus vittatus Philippi
(Figures 10, 11, 14)

*Arrhynchus vittatus* Philippi, 1871: 291-292; Reed, 1888: 288; Hunter, 1901: 152; Kertes'z, 1909: 11.

*Type Specimen:* ♀, Chile. There are three labels on the type specimen. 1) a white label with what looks like "chonulagui"; 2) a blue label with *"Arrhynchus vittatus* Ph., p. 1536, 1870, Medina"; and 3) a red label with the word "Holotipo". Philippi (1871) stated the type was from Santa Cruz, Curico Province, Chile, but this label is not on the holotype specimen.

*Discussion:* This species was described by Philippi from a unique female. Since the species has not been noticed since 1871, and since it has been placed in the genus *Ocnaea* by Stuardo (1946), a redescription of the type ♀ and of 6 additional males is given to better clarify the position of this species.

*Redescription of the Holotype.*

*Female:* Length of entire specimen 12 mm., wing length 9 mm.

*Coloration:* Brownish-purple, yellow, black and bluish-black; yellow are broad lateral areas of tergites II-IV; black are eyes, ocellar tubercle, frons, occiput, antennal segment I and clypeus; brown are antennal segment II, ocelli, squama, squamal rim, wing veins, tarsal claws (except black tips); bluish-black are margins of scutellum, mesonotal disc and broad median vitta reaching to anterior margin of mesonotum; pulvilli are light brown; remainder of specimen is brownish-purple except for tibiae and tarsi which are more blackish-purple.

*Pile:* Brownish-purple and dense on eyes, occiput, ocellar tubercle, femora, pleura, humerus, postalar callus, brownish-purple areas of tergites IV-VI, all about as long as length of antennal segment I, except that on ocellar tubercle, coxae, pleurae, humerus, postalar callus and abdomen somewhat longer; light brownish-white and dense on mesonotum, scutellum, squama and remainder of abdomen, somewhat longer than that on eyes, except mostly shorter along tergal margins; that on tibiae and tarsi more dense, short, almost appressed and dark blackish-purple.

*Head* higher than long as 20:14 (Fig. 14); antennal segment I longer than II as 5:3 (segment III absent); base of antennae separated from lateral ocellus by distance equal to three times length of antennal segment I; ocellar tubercle nearly flat, lateral ocelli distinct, median ocellus present but indistinct; frons small, hardly raised; occiput (when viewed laterally) occupies less than ⅓ of head length at mid-line; clypeus indistinct but present, not projecting beyond margin of postclypeus in lateral view; prementum indistinct, but present; eyes separated by indistinct line between antennal triangle and postclypeus, and narrowly separated between frons and ocellar tubercle as in Fig. 11.

*Thorax* shiny; humerus with small posterodorsal angle; scutellum little, more than twice as long as wide as 25:10; each tibia with short but distinct tibial spur; short hairs cover basal ⅓ of tarsal claws; squama infuscated, semitransparent, without small hairs, only sparse pile; wing venation with $R_{4+5}$ branched as in Fig. 10; wing membrane hyaline, faintly infuscated.

*Abdomen:* Shiny, widest at segment III.

*Male:* Same as female except as follows: brownish-purple areas mostly bluish-black except sternites I-V and postalar callus; yellow areas of abdominal tergites reach laterally from margin nearly to mid-line or reach less than ½ way to mid-line, occupying only tergite II-III or II-V; tergites I and VI always, and V usually bluish-black; wing membrane somewhat less infuscated, veins somewhat lighter brown; squama white, somewhat less transparent; antennal segment II black, segment III black dorsolaterally and black or brown interoventrally; length of segments I, II, III as 10:4:95 to 11:5:75; antennal base much closer

to ocellar triangle, and separation between eyes at this area is farther apart; head about twice as high as long; median ocellus barely indicated.

*New distributional data:* 6 ♂♂, all from Chile as follows: 1 ♂, Fundo Noruega, IX-23-40 (CNHM); 1 ♂, Provincia O'Higgins, 1-1955 (LP); 1 ♂, Cuesta Chac. (= Chacabuco), IX-29-1913 (CNHM); 1 ♂, San Cristóbal, Santiago, II-23-1947, L. E. Peña (LP); 1 ♂, Llay-Llay as "Vay-Vay", 420 mt's, IX-5-1949, Kuschel (CNHM), and 1 ♂, Quebrada San Jeronimo, Valparaiso Prov., no date, Montes collector (CIE).

Apparently this is still a rare species in Chile. We did not see any specimen during our 8-month field expedition, and the only specimen I know anything about environmentally is the one cited above collected in O'Higgins Province, which Señor Peña said he had picked off the radiator of his truck.

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